

REMARKS

Status Of Application

Claims 1-18 are pending in the application; the status of the claims is as follows:

Claims 1, 2, 7, 8, and 16 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,725,431 to Myers;

Claims 3, 4, and 17 are rejected under 35 U.S.C. §103(a) as being unpatentable over Myers in view of U.S. Patent No. 4,067,626 to McElwain;

Claims 5, 6, 15, and 18 are rejected under 35 U.S.C. §103(a) as being unpatentable over Myers in view of Japanese Publication No. 2002-059851 to Kurooumaru;

Claims 9-14 rejected under 35 U.S.C. §103(a) as being unpatentable over Myers in view of U.S. Patent No. 5,580,314 to Moriyama; and

Claims 15 and 17 are objected to under 37 C.F.R. §1.75 as being a substantial duplicate of claims 1 and 3.

The courtesy of Examiner Pilkington to grant applicant's attorney an interview on April 14, 2009 is noted with appreciation. The amendments and remarks herein are consistent with the comments offered in the interview.

Claim Amendments

Claims 1 and 16 have been amended to more clearly point out the structure of the claimed invention. These changes are not necessitated by the prior art and do not introduce any new matter.

Claims 2, 3, 5, 7, 8, 13, 14, 17, and 18 have also been amended to make them more consistent with independent claims 1 and 16. These changes do not introduce any new matter.

35 U.S.C. § 102(b) Rejection

The rejection of claims 1, 2, 7, 8, and 16 under 35 U.S.C. § 102(b) as being anticipated by Myers, is respectfully traversed based on the following.

In order to anticipate claim 1, Myers must disclose each and every element of the claimed invention. Claim 1 discloses a universal joint with a resistance applying mechanism structurally adapted to generate a load that resists the oscillating movement of the cross member. In addition, claim 1 discloses the specific orientation of the cross member with respect to the input and output shafts at which the mechanism generates the maximum resistance load, *i.e.*, “when axes of said two spider arms are included in a plane that includes the axes of both of said input and output shafts.” These limitations can be seen in claim 1, which recites:

A universal joint, comprising:
an input shaft;
a pair of yoke arms provided for said input shaft;
an output shaft;
a pair of yoke arms provided for said output shaft;
a cross member having four spider arms, configured in a cross pattern;
two bearings provided between the tip parts of two of said four spider arms,
which are disposed oppositely to each other and two yoke arms of said input shaft;
and
two bearings provided between the tip parts of the other two of said four
spider arms, which are disposed oppositely to each other and two yoke arms of said
output shaft,
wherein said universal joint further includes a resistance applying mechanism
adapted to generate the maximum resistance load in an oscillating movement of each
of said two spider arms when axes of said two spider arms are included in a plane that
includes the axes of both of said input and output shafts.

(emphasis added). An embodiment of this resistance applying mechanism can be seen in the figures reproduced below showing expanded views of a universal joint (Fig. 3) and a cross member/yoke hole bearing (Fig. 11).

FIG. 3

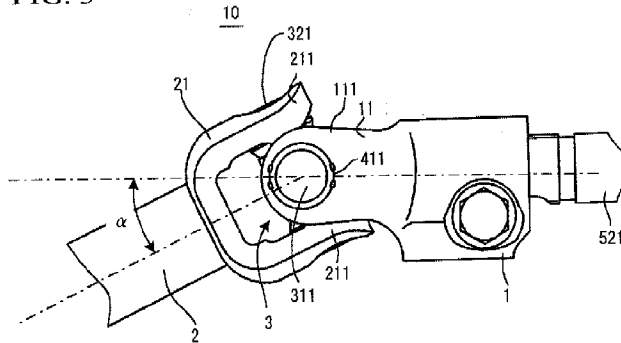
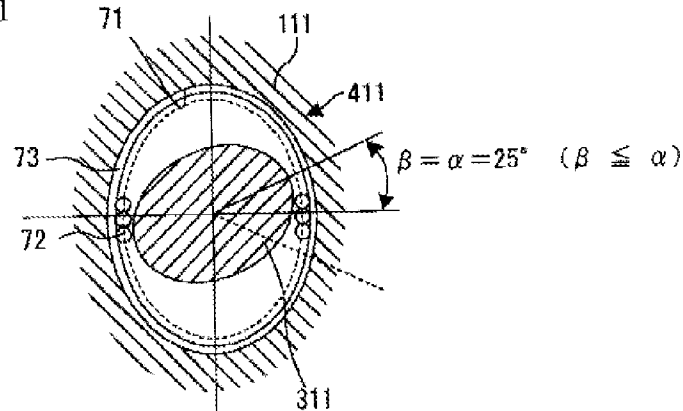


FIG. 11



With respect to the Office Action's comments about functional language, the MPEP acknowledges that "[t]here is nothing inherently wrong with defining some part of an invention in functional terms." MPEP § 2173.05(g). In fact, a functional limitation is often used to define a particular capability or purpose that is served by the recited elements. *Id.* Such non-structural limitations are proper even at the point of novelty.¹ Thus, the use of functional language in claim 1 should not automatically render it improper.

¹ *In re Ludtke & Sloan*, 441 F.2d 660 (C.C.P.A. 1971) (explaining that a claim directed to a parachute canopy comprising two prior art structural elements and a series of functional expressions was proper); *See also In re Stencel*, 828 F.2d 751 (Fed. Cir. 1987) (confirming that a statement of purpose of intended use constitutes a

The Office Action asserts that Applicant did not differentiate what is claimed from the prior art in terms of structure as required by MPEP § 2114. Office Action, par. 9. Applicant respectfully disagrees. The relative orientation of structural elements in claim 1 as expressed by the “functional language” is in itself a structural limitation. This structural limitation precisely describes the arrangement and alignment of a number of the claimed structural elements (spider arms, input shaft, and output shaft) and how they work together to generate the maximum resistance load and obtain the desired result. Thus, all of the aspects of the claim, including what the Office Action calls functional language, are limitations that must be shown in the cited reference in order to anticipate the invention of claim 1.

Myers discloses a universal joint having a thrust washer for absorbing radially directed thrust loads caused by radial movement or play between the universal joint's components due to manufacturing tolerances. However, Myers does not disclose any relationship between the orientation of a universal joint's structural elements and any level of resistance generated by the thrust washer. As a result, Myers fails to disclose at least one of the structural limitations recited in claim 1. Additionally, the Office Action states that Myers is “capable of performing the recited function” because the device disclosed in Myers allows for a maximum resistance load “*at some rotational arrangement.*” *Id.* However, as this statement makes clear, the maximum resistance load in the Myers device, if any, is *not* shown to be generated at the particular orientation disclosed in claim 1. As a result, unlike the claimed invention, Myers does not disclose, suggest or teach selectively applying a variable resistance load in order to suppress the variation in torque transmitted between the input and output shafts of the universal joint. Nothing in Myers discloses any relationship between resistance that may occur during rotation and the specific orientation identified in claim 1. Accordingly, because Myers fails to disclose a structure that generates a variable resistance load in order to suppress the variation in torque transmitted between the input and output shafts of the universal joint, Myers cannot anticipate claim 1.

limitation for the purposes of patentability); *Kockum Indus., Inc. v. Salem Equip., Inc.*, 469 F.2d 79 (9th Cir. 1972) (holding that functional expressions were proper at the point of novelty, so long as the specification was clear as to what the words meant and how the function was achieved).

Claims 2, 7, and 8 depend from claim 1, and thus incorporate all the limitations of claim 1. As a result, claims 2, 7, and 8 are distinguishable from Myers for at least the same reason recited above for claim 1, and hence cannot be anticipated by Myers.

Claim 16 is an independent claim which recites in part:

A universal joint, comprising:

...

a resistance applying mechanism configured to generate a resistance between said cross member and at least one of said yoke arms to resist an oscillating movement of said cross member, said resistance applying mechanism being configured to generate a maximum resistance when axes of two of said spider arms are included in a plane that includes the axes of both of said input and output shafts.

(emphasis added). Thus, claim 16 teaches a resistance mechanism that is configured to generate a maximum resistance at a specified orientation of a universal joint's components, i.e., "when axes of two of said spider arms are included in a plane that includes the axes of both of said input and output shafts." This language is a limitation which must be shown in a prior art reference in order for that reference to anticipate claim 16.

As discussed above with regard to claim 1, Myers fails to disclose a resistance mechanism which generates a maximum resistance at a specified orientation. Thus, for at least this reason, Myers is unable to anticipate claim 16.

Accordingly, it is respectfully requested that the rejection of claims 1, 2, 7, 8, and 16 under 35 U.S.C. § 102(b) as being anticipated by Myers, be reconsidered and withdrawn.

35 U.S.C. § 103(a) Rejections

The rejection of claims 3, 4, and 17 under 35 U.S.C. § 103(a), as being unpatentable over Myers in view of McElwain, is respectfully traversed based on the following.

To support a *prima facie* case of obviousness, the combination of Myers and McElwain, singly or in combination, must show or suggest every limitation in claims 3, 4, and 17. MPEP § 2143.03. Claims 3 and 4 depend from, and therefore incorporate all the limitations of claim 1 including a mechanism for applying a resistance as claimed in claim 1. Similarly, claim 17 depends from, and therefore incorporates all the limitations of claim 16 including a mechanism for applying a resistance as claimed in claim 16. The Office Action states that the combination of Myers and McElwain discloses all the limitations in claims 3, 4, and 17. However, as discussed above, Myers does not disclose any resistance mechanism that provides a maximum resistance at a specific structural orientation, and thus cannot anticipate or render claims 1 or 16 obvious. McElwain also fails to disclose such a mechanism. Therefore, the combination of Myers and McElwain together does not disclose every element of claims 1 and 16, and thus cannot anticipate or render obvious claims 1 or 16, or any claims that depend from claims 1 or 16. Accordingly, although there are additional distinctions between the inventions of claims 3, 4, and 17 and the Myers/McElwain combination, the failure of this combination to disclose the above-described resistance mechanisms is by itself sufficient to demonstrate that this combination does render claims 3, 4, or 17 obvious.

Additionally, the Office Action states that McElwain discloses a yoke that includes a *substantially oval yoke hole* and a *substantially oval tip part* of a spider arm, wherein a bearing cup is press-fit in said substantially oval yoke hole and a plurality of needles are provided between the inner surface of this bearing cup and said substantially oval tip part of said spider arm *for the purpose of dissipating the load on the needles to prolong the operation life of the joint*. Office Action, Par. 4 (emphasis added). Applicant respectfully disagrees. Claims 3, 4, and 17 require a resistance mechanism with a substantially oval yoke hole **and** a substantially oval tip part of a spider arm. On the other hand, McElwain discloses needle bearing elements that are interposed between two surfaces, one being *cylindrical* and the other *elliptical*. See, e.g., McElwain, 1:50-56; 2:21-24; 4:52-55; 6:1-4. Thus, McElwain fails to disclose at least one of the elements recited in claims 3, 4, and 17. At the same time, the Office Action acknowledges that Myers fails to disclose this element. Office Action,

Par. 4. This failure to disclose provides another reason why the Myers/McElwain combination does not render claims 3, 4, or 17 obvious.

Accordingly, it is respectfully requested that the rejection of claims 3, 4, and 17 under 35 U.S.C. § 103(a) as being unpatentable over Myers in view of McElwain, be reconsidered and withdrawn.

The rejection of claims 5, 6, 15, and 18 under 35 U.S.C. § 103(a), as being unpatentable over Myers in view of Kuroumaru, is respectfully traversed based on the following.

To support a *prima facie* case of obviousness, the combination of Myers and Kuroumaru, singly or in combination, must show or suggest every limitation in claims 5, 6, 15, and 18. MPEP § 2143.03. Claims 5, 6, and 15 depend from, and therefore incorporate all the limitations of claim 1 including a mechanism for applying a resistance as claimed in claim 1. Similarly, claim 18 depends from, and therefore incorporates all the limitations of claim 16 including a mechanism for applying a resistance as claimed in claim 16. The Office Action states that the combination of Myers and Kuroumaru discloses all the limitations in claims 5, 6, 15, and 18. However, as discussed above, Myers does not disclose any resistance mechanism that provides a maximum resistance at a specific structural orientation, and thus cannot anticipate or render claims 1 or 16 obvious. Kuroumaru also fails to disclose such a mechanism. Therefore, the combination of Myers and Kuroumaru together does not disclose every element of claims 1 and 16, and thus cannot anticipate or render obvious claims 1 or 16, or any claims that depend from claims 1 or 16. Accordingly, although there are additional distinctions between the inventions of claims 5, 6, 15, and 18 and the Myers/Kuroumaru combination, the failure of this combination to disclose the above-described resistance mechanisms is by itself sufficient to demonstrate that this combination does render claims 5, 6, 15, or 18 obvious.

Accordingly, it is respectfully requested that the rejection of claims 5, 6, 15, and 18 under 35 U.S.C. § 103(a) as being unpatentable over Myers in view of Kuroumaru, be reconsidered and withdrawn.

The rejection of claims 9-14 under 35 U.S.C. § 103(a), as being unpatentable over Myers in view of Moriyama, is respectfully traversed based on the following.

To support a *prima facie* case of obviousness, the combination of Myers and Moriyama, singly or in combination, must show or suggest every limitation in claims 9-14. MPEP § 2143.03. Claims 9-14 depend from, and therefore incorporate all the limitations of claim 1 including a mechanism for applying a resistance as claimed in claim 1. The Office Action states that the combination of Myers and Moriyama discloses all the limitations in claims 9-14. However, as discussed above, Myers does not disclose any resistance mechanism that provides a maximum resistance at a specific structural orientation, and thus cannot anticipate or render claim 1 obvious. Moriyama also fails to disclose such a mechanism. Therefore, the combination of Myers and Moriyama together does not disclose every element of claim 1, and thus cannot anticipate or render obvious claims 1 or any claims that depend from claim 1. Accordingly, although there are additional distinctions between the inventions of claims 9-14 and the Myers/ Moriyama combination, the failure of this combination to disclose the above-described resistance mechanisms is by itself sufficient to demonstrate that this combination does render claims 9-14 obvious.

Accordingly, it is respectfully requested that the rejection of claims 9-14 under 35 U.S.C. § 103(a) as being unpatentable over Myers in view of Moriyama, be reconsidered and withdrawn.

Double Patenting Rejection

The Office Action's advisory objection to claims 16 and 17 is noted with appreciation. Applicant will fully respond to this objection once the allowability of claims 1, 3, 16, and 17 has been determined.

In the meantime, Applicant notes that it is a common and accepted practice to claim the invention set forth in the specification of a patent application using multiple claims using different terminology, but having similar scope. Indeed, “court decisions have confirmed applicant's right to restate (*i.e.*, by plural claiming) the invention in a reasonable number of ways.” MPEP § 706.03(k)². Applicant also notes that, because all the claims belong to one patent application, there is no risk of double patenting as is the case between two or more pending applications, or between one or more pending applications and a patent. In the present application, the wording of the claims at issue is not identical, and, while they may overlap, Applicant is not precluded from obtaining such claims because this not a scenario in which double patenting could arise.

CONCLUSION

In view of the foregoing amendments and remarks, this application is considered to be in condition for allowance, and Applicant respectfully requests an early reconsideration and a Notice of Allowance.

This Amendment does not increase the number of independent claims, does not increase the total number of claims, and does not present any multiple dependency claims. Accordingly, no fee based on the number or type of claims is currently due. However, if a fee, other than the issue fee, is due, please charge this fee to Sidley Austin LLP Deposit Account No. 18-1260.

If an extension of time is required to enable this document to be timely filed and there is no separate Petition for Extension of Time filed herewith, this document is to be construed as also constituting a Petition for Extension of Time Under 37 C.F.R. § 1.136(a) for a period of time sufficient to enable this document to be timely filed.

² See also *Hormone Research Foundation, Inc. v. Genentech, Inc.*, 904 F.2d 1558, 1567 (Fed. Cir. 1990) (“It is not unusual that separate claims may define the invention using different terminology, especially where . . . independent claims are involved”); *Tandon Corp. v. U.S. Int’l Trade Comm’n*, 831 F.2d 1017, 1023 (Fed. Cir. 1987) (explaining that two claims worded differently may cover the exact same subject matter).

Application No. 10/561,254
Amendment dated April 27, 2009
Reply to Office Action of January 29, 2009

Any other fee required for such Petition for Extension of Time and any other fee required by this document pursuant to 37 C.F.R. §§ 1.16 and 1.17, other than the issue fee, and not submitted herewith should be charged to Sidley Austin LLP Deposit Account No. 18-1260. Any refund should be credited to the same account.

Respectfully submitted,

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April 27, 2009

DA1 433471v.8